REMARKS

Claims 1-30 are pending in this application. Applicants thank the Examiner for his indication that claim 30 is allowed as written and that claims 3, 21 and 23 contain allowable subject matter. The remaining claims are rejected.

Claims 1, 4, 8-10, 21 and 23 have been amended. No new matter has been added. Claim 1 was amended to remove unnecessary verbiage and to correct a typographical error. Claims 4, 8 and 9 have been amended to correct an antecedent basis problem. Allowed claims 21 and 33 have been amended to make them independent. Other claims amendments are discussed below in more detail.

The foregoing amendments are taken in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicant would otherwise be entitled in view of the prior art.

By amending the application, the Applicants do not concede that the patent coverage available to them would not extend as far as the original claim. Rather, Applicants reserve the right to file a continuation application to pursue the breadth of the claims as filed. Applicants believe that the Examiner has not made a sufficient showing of inherency of the teachings of the asserted prior art, especially given the lack of teachings in the cited references of the properties that Applicants have recited in their claims.

Further, by the present amendment, it does not follow that the amended claims have become so perfect in their description that no one could devise an equivalent. After amendment, as before, limitations in the ability to describe the present invention in language in the patent claims naturally prevent the Applicants from capturing every nuance of the invention or describing with complete precision the range of its novelty or every possible equivalent. See, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 62 USPQ2d 1705 (2002). Accordingly, the foregoing amendments are made specifically in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicants would otherwise be entitled.

Formal Matters

The Examiner objected to claims 1, 4, 10, 24 and 30 as containing informalities. Applicants have adopted the Examiner's suggestions with respect to claims 4 and 10, but respectfully decline to adopt the Examiner's suggestions with respect to claims 1, 24 and 30. In particular, Applicants decline to add the phrase -- passing from each of said plurality of wells-- to the monitoring/measuring steps of claims 1 and 30. Adding the suggested terminology would confuse the claims by suggesting that the materials are removed from the substrate when other terminology in these claims makes clear that the materials are not removed from the substrate.

Rejection of claims 1, 2, 4-20, 22 and 24-29 under 35 U.S.C. §103

The Examiner rejected claims 1, 2, 4-20, 22 and 24-29 under 35 U.S.C. §103 as obvious over publication WO98/15501 to McFarland et al. ("McFarland") or publication WO99/18431 to Matsiev et al. ("Matsiev") in view of U.S. Patent No. 6,393,898 to Hajduk et al. ("Hajduk") or U.S. Patent No. 6,149,882 to Guan et al. ("Guan"). This rejection is traversed.

McFarland and Matsiev are not analogous art to the present invention and therefore are not properly used as prior art. To be analogous art, "the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

Applicants' field of endeavor is the measurement of a physical property, e.g., viscosity using capillaries. Clearly, McFarland and Matsiev are not part of the same endeavor as the present invention. As acknowledged by the Examiner, McFarland and Matsiev do not disclose the use of capillaries. Rather, as is repeated throughout the disclosures of McFarland and Matsiev, they use ultrasonic type and mechanical resonator type sensors (thickness shear mode sensors and tuning forks) to measure viscosity. In ultrasonic sensors, acoustic waves are propagated through a sample. The resultant waves and reflections are detected. Based on the difference between the initial and resultant waves, a determination about a property, e.g. viscosity, of the sample. On the other hand, a mechanical resonator is placed within the sample and

an input signal is sent to cause the resonator to oscillate. The specific oscillations of the resonator will depend on the particular property being observed. Comparing the initial and resultant oscillations will provided useful information about the sample.

In contrast, the present invention utilizes differences in force to determine a physical property, e.g. viscosity. As seen in the claims and the specification, after contacting the sample with the capillary, a force is applied. The force is transferred through the sample to a measurement device. The difference in the applied force and the measured force indicates the magnitude of the viscosity. Thus, the present invention uses force to measure viscosity, while the devices of McFarland and Matsiev use acoustic waves or mechanical oscillations to measure viscosity. The distinction in the mechanism of detection illustrates that McFarland and Matsiev are not part of the same endeavor as the present invention. One skilled in the art would not understand the disclosure of McFarland and Matsiev to be part of the same endeavor as the present invention.

Moreover, McFarland and Matsiev are not reasonably pertinent to the particular problem overcome in the present invention. The particular problem overcome by the present invention is the use of force to measure viscosity. As discussed above, McFarland and Matsiev utilize mechanisms of detection that are quite distinct from present invention. On the one hand, McFarland and Matsiev use acoustic waves and/or mechanical oscillations, while the present invention uses transferred force. The operation of acoustic wave or mechanical oscillation devices is very different from a transferred force device. For example, the devices which provide the acoustic waves or mechanical oscillations are dissimilar from devices which apply force. Also, the devices that measure the resultant waves and oscillations are also dissimilar from the devices which measure force. One skilled in the art would not understand the teachings of McFarland and Matsiev to be reasonable pertinent to the particular problem overcome by the present invention. For these reasons, Applicants assert that McFarland and Matsiev are not analogous art and therefore are not properly used as prior art to the present invention.

The four references are not physically combinable. As discussed above, McFarland and Matsiev utilize methodologies that are substantially different and incompatible with the methodologies of Hajduk and Guan. McFarland and Matsiev

use acoustic waves or mechanical oscillations, while Hajduk and Guan use fluid flow to make their respective measurements. One skilled in the art would understand that acoustic waves/mechanical resonator devices could not be combined with fluid flow devices in order to achieve the present invention.

Assuming arguendo that the four references disclose all of the elements of the presently claimed invention, there is still no motivation to combine the references.

First, Applicants agree with the Examiner that McFarland and Matsiev do not teach or suggest the use of capillaries. This alone indicates that McFarland and Matsiev are not the source of the asserted motivation to combine the four references.

Second, the disparate methodologies used to accomplish their tasks indicates that the four references do not provide one skilled in the art with the motivation to combine the references. McFarland and Matsiev use acoustic waves/mechanical oscillations while Hajduk and Guan use fluid flow, with no suggestion that the other type of methodologies would be suitable for use in their device. For example, Hajduk does not suggest that the acoustic wave methodology of McFarland would be suitable for use in his device.

Third, although Hajduk and Guan disclose the use of needles and capillaries, these disclosures are not a source of motivation to combine the four references.

Specifically, as seen in the claims, the samples in the present invention do not leave the substrate on which they are placed to have their viscosity measured. For example, in claim 1, the monitoring step is carried out "while said materials remain on said substrate".

Hajduk and Guan both teach away from this concept by clearly describing the removal of the sample from the substrate in order to conduct property measurement. The following description of the operation of the Hajduk device shows that samples are removed from the substrate:

> The needle can be inserted into one of the sample wells (e.g. in a 96 well plate) and liquid aspirated into the barrel or tube by reducing the pressure in the barrel or tube. This may be done either by retracting the plunger on a separate syringe pump, such as provided to aspirate and dispense liquids in an automated liquid handling system, or by shunting the line to a vacuum source. Once a sufficient quantity of

> liquid is aspirated into the barrel, the syringe is lifted above the sample's liquid level, and the liquid is allowed or forced to flow through the needle and back into the sample well from which it was drawn. The flow may be monitored by any of a variety of mechanisms described herein. See column 4, lines 50-62. (emphasis added).

As can be seen, in Hajduk, the flow of the liquid sample back into the sample well is where the monitoring is conducted and how the property, e.g. viscosity, is measured. The sample removal and flow back into the sample well is critical to the operation of the Hajduk device. Thus, Hajduk teaches away from leaving the sample on the substrate while conducting the viscosity measurement.

Similarly, the description of the operation of the Guan device also shows that the samples are removed from the substrate. In discussing Fig. 1, Guan states:

> Typically, solid library members are supplied to each of the vessels 12 in the form of a fixed bed: the library members are either supported on solid particles or are themselves granular or porous solids. In such cases, the test fluid flows through the interstices in the fixed bed, ensuring intimate contact between the test fluid and the library member. Similarly, liquid library members are confined within the vessels 12 by capillary forces, and fluid contact occurs by bubbling test gas through the vessels 12. Following fluid/solid or fluid/liquid contacting, the test fluid exits each of the vessels 12 through outlet conduits 20 that convey the test fluid to the exit control volume 16. Most vessel effluent dumps directly into the exit control volume 16. However, test fluid [from] selected vessels 12 is routed from the outlet conduits 20 through a sample bypass 24 to a detector 26, which measures changes in the test fluid resulting from contact with a library member. See column 5, lines 12-28. (emphasis added).

Similar to The Hajduk, the Guan device utilizes a detector that requires the sample to be diverted from the substrate. From the above quote, the sample is routed from the vessel (substrate) to the detector. Without the flow of the sample to the detector, no changes in the sample can be measured. Thus, Guan teaches away from leaving the sample on the substrate while conducting the viscosity measurement.

Motivation to combine is also absent from the skill in the art. One skilled in the art would understand that the methodologies of McFarland and Matsiev, on the one hand, would be incompatible with the methodologies of Hajduk and Guan, on the other hand.

In sum, motivation to combine cannot be found within the references because each use divergent methodologies to accomplish their tasks and because Hajduk and Guan teach away from leaving samples on the substrate. Motivation to combine the references is also not found in the skill in the art.

For at least these reasons, the presently claimed invention is not obvious over McFarland or Matsiev in view of Hajduk or Guan.

CONCLUSIONS

In view of Applicants' amendments and remarks, the Examiner's rejections are believed to be rendered moot. Accordingly, Applicants submit that the present application is in condition for allowance and requests that the Examiner pass the case to issue at the earliest convenience. Should the Examiner have any question or wish to further discuss this application, Applicant requests that the Examiner contact the undersigned at (248) 593-9900.

If for some reason Applicant has not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent the abandonment of this application, please consider this as a request for an extension for the required time period and/or authorization to charge our Deposit Account No. 50-1097 for any fee which may be due.

Respectfully submitted,

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